MHHS Testing Advisory Group (TAG) Actions and Minutes

Issue date: 23/02/22

Meeting number	**TAG002**	Venue	**MS Teams (Virtual)**
Date and time	**16 February 2022 10:00-12:00**	Classification	**Public**

Attendees

Chris Welby (Chair)	MHHS IM SRO - Chair
Adrian Ackroyd (AA)	MHHS IM Test Manager
Nickie Bernsmeier-Rullow (NBR)	DCC Representative (as smart meter central system provider)
Stacey Buck (SB)	iDNO Representative
Brendan Byrne (BB)	DCC Representative (as smart meter central system provider)
Keith Clark (KC)	MHHS IM Programme Manager
Martin Cranfield (MC)	MHHS IM PMO
Anna Davis (AD)	DNO Representative
Kate Goodman (KG)	MHHS IM Test Architect
Ian Hall (IH)	Supplier Agent Representative
Badruddin Khan (BK)	Elexon Representative (as central systems provider)
Andy MacFaul (AMF)	Ofgem (as observer)
Fraser Mathieson (FM)	MHHS IM PMO
Dominic Mooney (DM)	MHHS IM Quality Manager
Richard Shilton (RS)	MHHS Independent Programme Assurer Lead
Sinead Quinn (SQ)	Ofgem (as observer)

Actions

Area	Action Ref	Action	Owner	Due Date
Previous Meeting	TAG01-03	Propose an approach for TAG members to be able to access M5 deliverables of interest	Programme	16/03/2022
Terms of reference	TAG02-01	Address ToR comments received just prior to meeting and circulate latest ToR for approval ex-committee	Programme	16/03/2022
Migration	TAG02-02	Update TAG ToR to reflect change to Testing and Migration Advisory Group (TMAG) for review by members	Programme	16/03/2022
	TAG02-03	Define what migration means, what the remit of the Migration Working Group is, and implications for TMAG	Programme	16/03/2022
E2E Testing Strategy	TAG02-04	Programme to schedule discussion session with DCC, Elexon, and registration service providers to discuss testing timelines, sequencing, and resource requirements, and determine impacts on MHHS Testing Strategy	Programme	16/03/2022
	TAG02-05	TAG members to provide any views on programme milestones as part of the replan consultation	TAG Members	18/05/2022
	TAG02-06	Programme to discuss governance of PIT and SIT with DCC	Programme	16/03/2022

	TAG02-07	TAG members to provide any comments on the prosed test phases and stages no later than close of business 25 February 2022	TAG Members	25/02/2022
Test Data Strategy	TAG02-08	Schedule Data Working Group for 03 March 2022 and seek members via programme channels	Programme	03/03/2022

Minutes

1.   Welcome and introductions

The Chair welcomed attendees to the second Testing and Advisory Group (TAG). The Chair welcomed the Independent Programme Assurer (IPA) to their first meeting.

2.   2a Minutes and actions review

The Chair requested comments on the minutes of TAG 01 held 19 January 2022. No comments were received, and the minutes were approved.

DECISION: The Minutes of TAG Meeting 01 were approved with no amendments

The group reviewed the outstanding actions, as per the slides. It was agreed TAG01-03 will remain open until next TAG meeting to ensure the approach proposed was suitable.

2b Relevant content highlights

CW highlighted key programme documents available to meeting participants as per the slide.

BB queried whether documents were available via the portal. KG replied that only design documents are available at present and that attendees should request access via the PMO (pmo@mhhsprogramme.co.uk) to see these. Portal content will develop as the programme progresses.

3.   TAG Terms of Reference sign off

AA provided an update on the TAG's proposed Terms of Reference (ToR), highlighting that further comments had been received shortly before the meeting which will require review before sign-off. The Chair stated that the programme would take this offline and approve ex-committee.

ACTION: TAG02-01 – Address ToR comments received just prior to meeting and circulate latest ToR for approval ex-committee

4.   Migration Update

The Chair highlighted a proposal taken to the Programme Steering Group (PSG) regarding migration activities as per the meeting papers and advised these had been approved by PSG in principle, with a proposal for membership to be discussed by the TAG. The result of the approval is that TAG will now become the Testing and Migration Advisory Group (TMAG), and the group's Terms of Reference ToR will be updated accordingly.

ACTION: TAG02-02 – Update TAG ToR to reflect change to Testing and Migration Advisory Group (TMAG) for review by members

Several attendees noted the skills required for testing and migration activities may vary. The Chair discussed how participants could manage expertise requirements as per the meeting papers. In particular, attendees could provide alternates subject to the relevant expertise required. Participants would arrange this individually and submit a request for an alternate's attendance to the Chair for approval. Where necessary, participants may request more than one attendee if required, although this should be by exception. The Chair noted that where there are multiple attendees, voting rights would fall to the nominated rep.

BK highlighted differences in the skillsets required to discuss migration deliverables and testing deliverable. The Chair explained a Migration Working Group (MWG) will be constituted under TAG, where migration discussions will take place and there will be channels to feed discussion up. MWG Attendees will also be able to request attendance at TAG for specific topics.

The Chair clarified that working groups under TAG will not require nominations or elections, as attendees will be subject matter experts rather than constituency reps. The Chair also clarified organisations may choose to send multiple attendees to working groups for technically focussed discussions.

BB queried what the Programme means by migration in this context and whether this included transitional arrangements. KG replied it will include transition cutover arrangements, parallel running of old and new systems, and potentially post-migration arrangements also.

NB queried whether this remit was too large, noting migration usually involves the movement and alignment of data only, but in this context would involve transition also and wished to ensure the remit of migration activities under the TAG was sufficiently clear. KG responded the term migration is being used generally, but the group may decide to augment this to be more descriptive, noting that Ofgem's timetable details the transition overall, of which migration is an individual milestone.

ACTION: TAG02-03 – Define what migration means, what the remit of the Migration Working Group is, and implications for TAG

KG advised the Programme is seeking to publish the testing strategy by M5 and produce a migration strategy by the end of July 2022.

5.   E2E Testing Strategy

KG provided an overview of the draft end-to-end testing strategy, explaining this had incorporated lessons learned from Faster Switching Programme (FSP) and the Smart Metering Implementation Programme (SMIP). KG highlighted proposed changes to the Ofgem transition timetable and stated the overall approach to testing is to set the high-level strategy now and as understanding of the design grows, define the detailed plan for what needs testing and when. This is in line with the MHHS Programme's 'design-led' principle.

KG provided an overview of the testing scope with reference to the Target Operating Model (TOM). The scope includes all new data services from smart, non-smart, advanced, and unmetered interfaces with the registration service, to Elexon central systems under Project Helix, and other metering service. KG highlighted this will require a smart DCC test service to enable meter readings. Elements out of scope include testing of the Load Shaping Service (LSS) and Market-wide Data Service (MDS), although the interfaces with these services will be tested.

NB asked whether there is a central plan from which the testing strategy is mapped, to ensure aspects of the strategy did not omit any specifics that emanate directly from design. KG replied that the strategy seeks to identify the individual stages and items required during testing and is not dependent on the detail of the design. KG went on to say that once the strategy is finalised, an approach and plan will be created for each of the major stages of testing, defining what happens at each stage and the boundaries. A migration strategy will follow, once more information on the design is available.

Transition Timetable

KG presented an extract from Ofgem's transition timetable, highlighting testing aspects. The group's attention was drawn to testing phases TE2/TE3/TE4, which test Elexon systems, systems integration, and system proving. These testing phases will include registration testing, comms networks testing, etc. and will take place between a small number of volunteer suppliers and data service agents. Broadly, the systems integration phase will test all market integration systems and suppler/service provider interfaces, to prove of end-to-end efficacy. The systems proving phase will test the whole end-to-end eco-system. There will also be a testing sandbox for suppliers and agents to carry out all testing they wish. It was noted that a supplier will need to pass qualification first to access the sandbox. IH queried the enduring arrangements for qualification testing. KG responded that qualification testing for the Programme will be enduring, and the Chair stated Elexon will operate the process post migration. The Chair commented there is a need to define how pre/post migration qualifications will operate, and this will be worked on later in programme. KG added that qualification testing is where most suppliers and agents will be required to test.

BK highlighted Elexon are seeking to commence integration testing in July 2022. KG acknowledged there may be a need to meet with DCC and registration systems providers to understand timelines are and how testing meshes. This would also require resources from within the Programme and input from the Data Integration Platform (DIP) provider, the event driven architecture that will be the backbone of all communications.

ACTION: TAG02-04 – Programme to schedule discussion session with DCC, Elexon, and registration service providers to discuss testing timelines, sequencing, and resource requirements, and determine impacts on MHHS Testing Strategy

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BK commented bringing non-function testing forward. KG replied that non-functional testing will happen at every stage of testing, as will regression testing, and parties will be expected to provide evidence of testing within individual environments throughout the Programme. BK agreed with this and stated this aligns with Elexon's strategy.

BK queried what level of support will be provided post T5 (registration service testing). KG replied this is something the strategy will identify and whilst it will not provide timings, it will set out the expected actions (e.g. pre-integration testing) and expectation that Elexon will provide a test system. KG highlighted the strategy will set expectations of which environments will be needed in which test stages and the testing plan will provide detailed timings. BK advised there are budgeting implications involved and a need to understand key dates. BK has an April deadline for budgeting, which aligns well with the E2E Testing & Integration Strategy being finalised in April.

Lessons Learned from FSP and SMIP

The group discussed the detailed lessons learned from FSP and SMIP testing, and KG agreed to include the key points as part of the testing strategy and plan as far as possible. The key points are summarised in the table below:

Key Point	Summary
'Shift-left'	Seeking to bring testing stages forwards in time, where possible
Non-functional testing	Ensuring robust non-functional testing, particularly regarding interfaces
Use of real MPANs	Enabling use of real-world data in testing to provide maximum ecological validity and identify issues that may not be apparent when dummy data is used, subject to data protection compliance; and, deciding early-on about use of real data
Negative testing	Ensuring that sufficient negative testing is included in phases such as SIT (FSP had mainly happy-path testing)
Development of scenarios specific to each testing stage	Providing scenarios as close to real world as possible for E2E testing and ensuring that tests are designed specifically for each stage and not re-used across several different stages
"Float" time between completion of one test stage and start of next	Ensuring test phases are not 'bunched' in a way that means there is not time to resolve issues from one before the next commences and avoiding moving "left-over" tests into later (and inappropriate) test stages
Ease of use of test management tools by Programme Participants (PPs)	Finding balance of capability and complexity in test management tools, striving to make interface simple, to explain well, building pre-existing queries to be used for MI and supporting ease of use for parties
Central coordination of testing	Robust and constructive central coordination of testing to support continuity of testing and adherence to timetable, noting this is something that worked well in the FSP
Test tools enabling automation and wide pool of data which PPs can choose for in their tests	Being cognisant of the need for a wide pool of data for parties to choose from in testing, to alleviate potential issues with limited data sets when testing commences and ensuring that test tools do not preclude appropriate test automation as happened with Jira/FSP
Managing potential governance conflicts	Ensuring the Programme is aware of and can manage any conflict between governance arrangements (e.g. where the Smart Energy Code and Retail Energy Code conflict in a matter relevant to testing), and being aware of wider industry release dates and systems

AD commented on shift left, noting thought is required on how this can be achieved and whether there will be flexibility to do this, given the boundaries within the existing plans. The Chair commented discussion at TAG could influence decisions on plans by responding to the consultation on the re-plan that will be undertaken once the detailed design is known. Parties will have other channels to provide views and comments, such as formal impact assessment, before the replan is finalised. The Chair encouraged any perceived issues with testing or any identified crunch-points to be made known to both TAG and through the replan consultation.

ACTION: TAG02-05 – TAG members to provide any views on programme milestones as part of the replan consultation

Ofgem Plan & Proposal for Discussion

KG provided an overview of Ofgem's plan showing the areas with which Programme Participants (PPs) and central actors will be involved. KG welcomed comments on plan and highlighted pre-integration is done by PPs individually but that a single phase of systems integration testing (SIT) This is proposed to commence with a 'piece by piece' integration on a system-by-system basis rather than the currently planned connectivity testing stage followed by basic message exchange. This would involve testing the Data Integration Platform (DIP) first, then integrated Elexon central systems to ensure connectivity, then bringing in data services and agents, and finally meter services. KG explained the advantage of this is being able to concentrate on one thing at a time, smoothing out integration, and allowing lessons from prior steps to feed into subsequent steps.

KG went on to suggest functional/nonfunction testing and operational testing is included in SIT, and that a migration testing stage is also inserted to test data transfers and bedding to new systems. This allows a single E2E testing phase rather than a distinct integration testing and E2E testing. PPs will be allowed to carry out all manner of testing according to their own needs. NB noted that DCC will need to consider testing technical readiness and how this could impact pre-integration testing (PIT) and the transition from PIT to SIT.

ACTION: Action TAG02-06 – Programme to discuss governance of PIT and SIT with DCC

ACTION: TAG02-07 –TAG members to provide any comments on the prosed test phases and stages no later than close of business 25 February 2022

Testing Tools

KG provided diagrammatic overview of the progressive integration of system components, highlighted the DIP (or "core platform") being the first component to test. This then enables Elexon central systems to connect and allow a simulated integration to prove Elexon systems can sit within the DIP and interface as necessary. Following this, testing will add supplier systems integrations, using an incremental approach starting ARP and UMSDS (as they are undergoing relatively restricted change) and moving on to SDS (with wide-ranging, complex change). KG stated it is not envisaged a test harness will be provided for injecting messages into the Data Services components as it is anticipated parties will have their own. The purpose of the MHHS Programme regarding test tooling is to provide centrally developed tools where it makes sense to do so but not to replicate existing facilities already in use. All comments on the tooling are welcome both through the TAG and offline.

6.   Test Data Strategy

The constitution of a new Data Working Group DWG was discussed, with a proposed first meeting date of 03 March 2022, which will enable any recommendations to feed into TAG promptly. A Terms of Reference will be drafted, discuss at first meeting, and presented to TAG for sign off on 16 March 2022.

DECISION: TAG agreed to constitute a Data Working Group (DWG) to determine the principles behind test data, as per Action TAG02-07

ACTION: TAG02-08 – Schedule Data Working Group for 03 March 2022 and seek members via programme channels

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The group then discussed how data for testing may be generated. A variety of methods were discussed including using live data, anonymised live data, or dummy data, and initial consideration was given to the data protection risks surrounding these. IH highlighted that dummy data had been problematic in past programmes of change and DM highlighted the breadth of data for testing during FSP was important to enable the best testing according to parties' needs. The group agreed these were matters that should be considered by the DWG.

7.   Next Steps

The Chair presented a TAG Agenda Roadmap as per the slide and explained new 'agenda road mapping' being undertaken for all governance groups which should assist PP's forward view of work and the technical skills required.

No further matters were raised.

The Chair thanked attendees and closed the meeting.

Next meeting 16 March 2022